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Commentary on Duran

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Commentary on Claudio Duran: "Bi-Logic and Multi-Modal Argumentation: Understanding Emotional Arguments"

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I agree with Professor Duran that traditional logic breaks down with respect to emotions. But it also breaks down with respect to cognitive states such as belief. Attempts to formulate logics of belief based on normal modal systems where the laws of classical logic hold failed miserably. This is owing to what Robert Stalnaker calls "the problem of deduction." (Stalnaker, 1984) An agent can believe p and q without believing their conjunction, and without believing their logical consequences. Further, an agent can unknowingly – or even knowingly – hold contradictory beliefs. For example, I may believe that 2 + 2 = 4 without believing that 865 + 932 = 1,797 even though the latter proposition is entailed by the former. Stalnaker attempted to solve the problem of deduction by arguing that agents compartmentalize their beliefs into distinct "belief states" which is why they fail to conjoin beliefs that are held in separate belief states. (Stalnaker, 1984) Then is the mind really bi-logical or is it mono-logically non-classical and paraconsistent?

Veikko Rantala (1982) and Jakko Hintikka (1975) attempted to solve the problem of deduction by the introduction of "impossible possible worlds" into their semantics. The traditional laws of logic fail at these impossible worlds and they are incorporated into the believer's set of doxastic alternatives. While this strategy got rid of the problem of deduction for systems of doxastic logic, they effectively invalidated every thesis of doxastic logic. (MacPherson, 1993) One can either call the resulting logic "non-standard" or just as easily, no logic at all. Even theses of intuitionistic, multi-valued, relevance and quantum logics fail when it comes to systems of beliefs.

A strong case could be made that the same is true with respect to the emotions. We have conflicting or contradictory emotions, and we don't always conjoin these conflicting emotions. It's not that there are two logics of the mind – traditional logic vs. non-standard emotional logic. There may be no logic of the mind whatsoever to describe a person's emotions or their beliefs. We are not bi-logical beings, but rather we are illogical beings. Whenever we describe a person's beliefs/emotions *as a whole*, it is apparent that agents are capable of believing and feeling anything, p and not-p, all at the same time even if in different compartmentalized states. Descartes recognized this characteristic of minds in Meditation IV when he argued that the will is capable of assenting to any proposition since it exceeds the understanding in terms of its scope. We are limited beings, we make mistakes, we routinely defy the laws of both classical and

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non-classical logic when it comes to both belief and emotion. This is not to deny that restricted regions of our belief systems (such as belief states) and our emotions can't be made to fit rules of some system of logic or other, even if it is a little like fitting a square peg into a round hole.

However, if I were to grant Professor Duran his claim that the emotions follow their own system of logic resting on the principle PS, it would be a very simple logic consisting of exactly one proposition and no inference rules except perhaps Reiteration. Or, more to the point, it would be no logic at all. Duran is favorable to the view that a principle guiding emotional logic is the classical principle of symmetry from Zermelo-Frankel set theory, PS. (Bond and Keane, 1999) That is, if A is a part of B and B is a a part of A, then A = B. There is a certain irony here since a non-traditional emotional logic adheres to a very traditional set-theoretic principle. Granting for the sake of argument Duran's claim about the role of the principle PS in emotional reasoning, a more apt description of what goes on when one emotively reasons is that the emotions adhere to traditional logic, although these principles are misapplied based on some sort of category mistake involving conflating part with whole. Though in my own view, there are no clear-cut logical principles, classical or otherwise, that operate with respect to the complete set of a person's emotions or beliefs. Logic, whether classical or non-classical goes on holiday when it comes both to cognitive and emotional states. Well, that's what I believe anyway.

An idea that Duran is advancing in his paper is that part-whole relationships are treated by the mind qua emotions as symmetrical. In particular, he notes that the emotions recognize no contradictions given that they regard affirmative propositions and the set of all propositions as being identical based on a mistaken ascription of symmetry to these sets. Now, if this is an accurate description of emotional reasoning, consider any arbitrary proposition, p. The proposition p is a member of the set of all propositions, but by PS, the set of all propositions is a member of the singleton set consisting of p from which it follows that there is only one proposition, p, with respect to the emotions. So, anytime we reason emotionally, we are inferring p from p by reiteration. This is indeed a very simple system of logic with only one truth-value. Or, just as plausibly, it is no logic at all.

As noted above, a case could be made that principles of logic does model what is going on *regionally* in terms of beliefs or emotions, even if not with respect to the entire set of one's beliefs or emotions. Though my hunch is that we are using systems of logic to make sense of emotional reasoning, from which it doesn't follow that this is actually what is going on. But let's grant that classical principles of logic operate regionally in the case of emotions to see where this takes us. Consider Duran's hypothetical case of the university student, Paula, who uses PS to infer that being a medical doctor is identical to her whole life and also identical to getting an "A" in the course. First of all, the identification of getting an A in the course with going to medical school is not so far off the mark. However, Paula's identification of her whole life with being a medical doctor could plausibly be described as a *misapplication* of the PS principle. The flaw with Paula's reasoning is *not* that she is using some sort of emotional logic that violates the laws of classical logic. Her reasoning is flawlessly classical in line with the PS principle. The source of the flaw has to do with the *truth-value* of one of the premises in her reasoning:

Premise: Being a medical doctor is part of my whole life.
Premise: My whole life is part of my being a medical doctor.
Premise (PS): If A is contained in B, and B is contained in A, then A = B.
Conclusion: Being a medical doctor is identical to my whole life.

This argument is *valid* from a classical point of view, but it is *unsound* because the second premise in the argument is false. There is no bi-logic here, but rather a misapplication of classical logic. Another way of describing the situation with Paula is that she is not using – implicitly or otherwise – any system of logic whatsoever in her emotional reasoning – she is just emoting.

Duran suggests that there is a high level of "symmetrical depth" in Paula's reasoning in the sense that she identifies *everything* in her life with being a doctor. The idea is that in Paula's mind, there is no distinction between any aspect of her life and being a doctor. If that is what is really and truly going on in Paula's mind, then any aspect of her life will stand in for being a doctor as worthy of her emotional commitment. Thus, brushing her teeth is her life's goal since this activity is a part of her life and her life is a part of brushing her teeth, and brushing her teeth is a part of being a doctor, and being a doctor is a part of brushing her teeth. Yet, Paula does not try to convince her professor that she can't brush her teeth unless she gets an A in the course. Then it is unlikely that she is identifying everything in her life with being a doctor, and so it is equally unlikely that there is any classical logical principle such as PS operant in her reasoning.

Now, Duran could reply that there is a *high level* of symmetry in her reasoning, but that it is not *complete* symmetry. This would explain why she does not argue that she needs an A so that she can brush her teeth. But then it would follow from this that PS is not a *complete* description of what is going on with Paula's emotional reasoning since she does not identify every part of her life with being a doctor. However, she supposedly *does* identify getting an A in the course with being a doctor, and being a doctor with her life. If that's true, then why doesn't she argue that she needs to be a doctor so she can get an A in the course? It is not clear that there are any identifications being made in Paula's reasoning and so there is no evidence of an implicit application of PS even regionally. What we can say about Paula is that being a doctor is very important to her, that she is connected to this goal emotionally, but it cannot be described using a set-theoretic principle.

Duran's additional example of Mark illustrates the irrelevance of PS, viz., that Mark *does not* identify getting into medical school with his life. Then in what sense is there any depth of symmetry whatsoever? No symmetry is no symmetry. So the example of Mark appears to be a counter-example to the claim that the principle of PS is operant in emotional reasoning. Neither does it appear to be operant in Paula's reasoning. What one can say is that being a doctor is more important to Paula than it is to Mark, but I suspect that when we unpack this, the principle of PS will not be involved.

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